

FIG. 1

gaatccgcgatggcgctgc atggcgctgc atggcgctgc vagccaaatt cgtctgcgaa
gaagaaaagag gagaagggggaga agaacatccca ggtgggggtg agatgcagac catttaattt
ggcagagccgaaagctagcg cccattcaat agtagaatgt gatcctgtac gaaaagaagt
tagtgtacga actggaggat tggctgaccaa gagctcaagg aaaacataca cttttgatata
ggtgtttggagcatctacta aacagattga tggttaccga agtgggtt gtcatttc
ggatgaagtt attatgggct ataattgcac tatcttgcg tatggccaaa ctggcactgg
aaaaacttttacaatggaaag gtgaaagggtc acctaatacg gagtataacct gggaaagagga
tcccttgcttgcgttataattc cactgtaccct tcatcaaattt ttgagaaaac ttactgtataa
tggactgaa ttcttgcgtca aagtgtctct gttggagatataatgaaag agcttttga
tcttcttaat ccatcatctg atgtttctga gagactacag atggttgcg atccccgtaa
caagagagga gtgataattt aagggtttaga agaaattaca gtacaagaac aggatgaagt
ctatcaaattttagaaaagg gggcagcaaa aaggacaact gcaacttc tgatgaatgc
atactctagt ctgtttccact cagtttctc tgttacataa catatgaaactt
tgatggagaa gagcttgcataaattcgaaa gttgaacttg gttgatctt caggaagtga
aaacatttgc ctgttctggag ctgttgcataa gaggttccgg gaaagctggaa atataaatca
atccctgttgcacttggaa gggtcattac tgcccttgc gaaagaacac ctcatgttcc
ttatcgagaa tctaaactaa ctagaattcc ccaggattct ttggagggc gtaaagaac
atctataattt gcaacaattt ctctgcattc tctcaatctt gaggaaactc tgagtacatt
ggaatatgc catagagcaa agaacatattt gaataagctt gaaatgaaactc
aaaaaaagct ctattaaagg agtataacggg gggatagaa cgtttaaaac gagatcttgc
tgcagcccgatgaaaatg gaggatgtat ttctgagaa aatttttagag tcatgagttt
aaaattaact gttcaagaag agcagattgtt agaattgattt gaaaaattt gtgctgtga
ggaggagctg aatagggtt aaggttggttt tatggataat aaaaatgaaac ttgaccagtg
taaatctgac ctgcaaaataa acacacaaga acttggaaacc actcaaaaaac
aactaaatta caacttgcataaagaagaata tatcatacatc gctttggaaa
gaaacttcat gatgtgcacca gcaagatgtt taacacagtt gaaagaactca
atctggcttc cattccaaac tggatgtt gaaaggcagg tccaacacaca
tcaggatatt ttggcaaaaac acctgtatag tctgtttaat aatattggaa
ggatggcagc tcaaagcaaa aggccatgtt agaagatcat aagacccat
gtgttcttca agtgcgttgc cattagatcat cattactaca gtagcactt
atctatttca gaaaatgtgtt ctactcatgtt ttctcagatt ttaatatgatactaaaaga
acaatcatta gcagcagaaaa gtaaaactgtt actacaggaa ttgattaatgt
tgatcttcta agttcaactggg aatgtatttt atccccactt gttgttctat
caatagtcaa ctaaaagcata tttcaagac ttcatggaca ttggccgata
tcaaaaaaaa aggaactcag atggcttctt cagttactgt tgaacaatc
acaagaaaat accattttgtt ctttgggtt gtcacaaaag caatgtggaa
agacctgaag acaataaaagc agacccattc ccaggaactt tgaagttt
gacagagaga ttctgtgtt tggaggaaaaat gttgtggaaaat
tgtccagaa aatatacagc agaaatctaa ggatatagtc aacaaaatgatact
tcaaaaaattt tggctgtt gtcatggctt ctcacaggaa ctcagaaaatt
aggtacaaaaa ttgggttgaag aatctgtt gaaactctgtt aacacttgc
aaaaaaatctt caagagactt aacagagatgt tgaatctgtt aacacaagaa
ttctgaacag tgggtatctt cttttttat aagggaaacag
ggttgttcaagc caatgttgc aggttcaag ttcatggatcact
taaggcagct catgagaaac agcataacat ttttcttgc
taaattgtata gcaaaaaatc tagaactttaa tgaaaccata
taattgttctt ctggaaacagg atctgttcaact
gaaaagttat ttatccccat caacacttgtt aagaactgaa
tcagctgaaa agggaaacagc ctgagctgtt aatgtatgtca
agaagagaca attccggatg tggatgtt gaaacttccca
acctctaagt caagagccat ctgtatgtt
tccatccccat cagcataaaaa aatcacatgg
actggagagg tctaaagtgg actaaagtgg
tctgcgcgatcc cagatcaacc ttttatttgc
aaactttaaaa ataaaaacctg
atataatataat cagccggggcg
ggccgggttggatggcttgc
cttcgttctt gttttttat
ggggaggcttggc
tacaccacta cactccagcc
aaaaagatataa
tcatccctat
cgtatccat
tttttccat
aaagtagttc
ttttaggaat
tc

FIG. 2

MASQPNSSAKKEEKGNIQVVVRCRPFNLAERKASAHSIVECD
PVRKEVSVRTGGLADKSSRKTYTFDMVFGASTKQIDVYRSVVCPILDDEVIMGYNCTIF
AYGQTGTGKTFMEGERSPNEEYTWEEDPLAGIIPRTLHQIFEKLTDMGTEFSVKVSL
LEIYNEELFDLLNPSSDVSRQLQMFFDPRNKGVIIKGLEITVHNKDEVYQILEKGA
AKRTTAATLMNAYSSRSHSVFSVTIHMKETTIDGEELVKIGKLNVLVDLAGSENIGRSG
AVDKRAREAGMINQSLLTGLRVITALVERTPHVPYRESKLTTRILQDSLGGRTRTSIIA
TISPASLNLEETLSTLEYAHRAKNIILNKPEVNQKLTKKALIKEYTEEIERLKRDIAAA
REKNGVYISEENFRVMSGKLTQEEQIVELIEKIGAVEEEELNRVTALFMDNKNELDQC
KSDLQNKTQELETTQKHLQETKLQLVKEEYITSALESTEELHDAASKLLNTVEETTK
DVSGLHSKLDRAKKAVDQHNAEAQDDIFGKNLSLFNNMEELIKDGSKQKAMLEVHKT
FGNLLSSSVSALDTITVALGSLTSIPENVSTHVSQIFNMILKEQSLAAESKTVLQEL
INVLKTDLLSLEMILSPPTVVSILKINSQLKHIFKTSLTVDKIEDQKKRNSDGFLSI
LCNNEHELQENTICSLVESQKQCGNLTEDLKTIKQTHSQELCKLMNTERFCALEEK
CENIQKPLSSVQENIQQKSKDIVNKMTFHSQKFCADSDGFSQELRNFNQEGTKLVEES
VKHSDKLNGNLEKISQITEQRCESLNTRTVYFSEQWVSSLNEREQELHNLLLEVVSQCC
EASSSDITEKSDGRKAAHEKQHNIFLDQMTIDEDKLIAQNLELNETIKIGLTKLNCFL
EQDLKLDIPTGTTPQRKSYLYPSTLVRTEPREHLLDQLKRKQPELLMMLNCENNKEE
TIPDVDEEAVLGQYTEEPLSQEPVDAGVDCSISGGVPFFQHKKSHGKDKENRGINT
LERSKVEETTEHLVTKSRLPLRAQINL

FIG. 3

atggcgtgcccagccaaattcgctcgcaagaagaagaaaagaggagaaggggagaacatccaggtgggtgggtgaga
tgcagaccatttaatttggcagagcggaaagctagcgccccattcaatagtagaatgtgatcctgtacgaaa
gaagtttagtgcactggaggattggctgacaagagctcaaggaaaacatacactttgatatgggttt
ggagcatctactaaacagattgatgttaccgagggtttgtccattctggatgaaagtattatggc
tataattgcactatcttgcgtatggccaaactggcactggaaaaactttacaatggaggtgaaagggtca
cctaatgaagagattacctgggaggaggatcccttgggctggtgtgataatccacgtacccttcatcaatttt
gagaaaactttactgataatggtactgaatttcagtcaaaggtctctgtgggagatcttataatgaaggctt
ttgatcttcttaatccatctgatgtttctgaggactacagatgtttgatgatccccgtaacaaggaga
ggaggtgataataaaggttttagaaagaaatacagtacacaaggtgatcaattttagaaaag
ggggcagcaaaaggcaaactgcagctactgatgaaatgcatactgatcgttccactcagtttctc
gttacaatacatgaaagaaactacgatgatgggaaagagctgtttgtaaaatcggaaagttgaacttggtt
gatcttgcggaaagtgaaacattggccgtttctggagctgtttgataaggagactcggggaaagctggggaaatata
aaatcaatccctgtttgactttggggaaaggtttcattactgccctgtgttatcg
gaaatctaaacttaactgaaatctcccaggatctctggagggggctacaaagacatcttataattgcaacaat
tctccctgcatctctcaatcttgaggaaacctctgagtacattggaaatatgctcataggaaacatat
tccgagggtaccgagcagagctgatcagcgaggacctgatcgaggaccaccaccaccaccactga

FIG. 4

MACQPNSSAKKKEEKGKNIQVVVRCRPFNLAERKASAHSIVECDPVRKEVSVRTGGLADKSSRKTYTFDMVF
GASTKQIDVYRSVVCPILDDEVIMGYNCTIFAYGQTGTGKTFMEGERSPNEEYTWEEDPLAGIIIPRTLHQIF
EKLTDNGTEFSVKVSLLEIYNEELFDLLNPSSDVSERLQMFDDPRNKRGVIIKGLEEITVHNKDEVYGILEK
GAAKRTTAATLMNAYSSRSHSVFSVTIHMKETTIDGEELVKIGKLNVLVLAGSENIGRSGAVDKRAREAGNI
NQSLTLGRVITALVERTPHVPYRESKLTRILQDSLGGRTTSIIATISPASLNLEETLSTLEYAHRAKNIL
LEQTEGKLISEEDLIEHHHHHH

FIG. 5

atggcgtgccagccaaattcgctcgcaagaagaagaaaagaggagaaggggaagaacatccaggtgggtgaga
tgcagaccatttaattggcagagcggaaagctagcgcattcaatagtagaatgtgatcctgtacgaaaa
Gaagtttagtgtacgaactggaggattggctgacaagagactcaaggaaaacatacactttgatatgggtt
Ggagcatctactaaacagattgatgttaccgaggtgttgcattctggatgaagttattatggc
Tataattgcactatcttgcgtatggccaaactggcactggaaaaactttacaatggaaggtgaaaggc
Cctaattgaagagtatacctggaaagaggatccctggctgttataattccacgtacccttcatcaaatttt
Gagaaaacttactgataatggtactgaattttcagtcaaaagtgtctgttggagatctataatgaagagctt
Tttgatcttcttaatccatcatctgatgttctgagagactacagatgttgcattccctgttaacaagaga
Ggagtgataattaaagggtttagaagaaaattacagttacacaacaaggatgaagtgtatcaaatttttagaaaag
Ggggcagcaaaaaggacaactgcagctactctgtatgaatgcatactctagtcgttccactcagtttctt
Gttacaatacatatgaaagaaaactacgattgtggagaagagcttggatggaaatcgaaaagttgaaacttgg
Gatcttgcaggaagtgaaaacattggcgttctggagctgttgcataagagaagctcggagactggaaatata
aatcaatccctgtgactttggaaagggtcattactgcccattgtagaagaaaacactcatgttccattatcga
gaatctaaactaactagaatccctccaggattcttggagggcgtacaagaacatctataattgcaacaatt
tctcctgcattctcaatcttgcaggaaactctgacttgcatttgcataatgcataagcaaaagaaacatattg
aataagcctgaagtgaatcagaaaactcaccaaaaaagcttattaaaggagtatacggaggagatagaacgt
ttaaaaacgagatcttgcagccctgtgagaaaaatggagttgtatatttgcataagaaaatttttagagtcatg
agtggaaaatttaactgttcaagaagagcagattgttgcataatggaaaatttgcataatgcataatgcataat
ctgaatagggttacagagggtttatggataatggaaaacttgcaccagggttgcataatctgacactgc
aaaacacaagaacttgcaccaactcaaaaacatttgcaccaaaaaacttgcaccaacttgcataatgcataat
atcacatcagcttggaaagtactgaggagaaaactcgaggggtaccgagcagaagctgatcagcggaggagac
ctgatcgagcaccaccaccaccactga

FIG. 6

MACQPNSSAKKKEEKGNIQVVRCRPFNLAERKASAHSIVECDPVRKEVSVRTGGLADKSSRKTYTFDMVF
GASTKQIDVYRSVVCPILDDEVIMGYNCTIFAYGQTGTGKFTMEGERSPNEEYTWEEDPLAGIIPRTLHQIF
EKLTNGTEFSVKVSLLEIYNEELFDLLNPSSDVSERLQMFDDPRNKRGVIIKGLEEITVHNKDEVYGILEK
GAAKRTTAATLMNAYSSRSHSVFSTIHMKETTIDGEELVKIGKLNVLVLAGSENIGRSGAVDKRAREAGNI
NQSLLTLGRVITALVERTPHVPYRESKLTRILQDSLGGRTTSIIATISPASLNLEETLSTLEYAHRAKNIL
NKPEVNQKLTKKALIKEYTEEIERLKRDLAAAREKNGVYISEENFRVMSGKLTQVQEEQIVELIEKIGAVEEE
LNRVTELFMDNKNELDQCKSDLQNKTQELETTQKHLGETKLGLVKEEYITSALESTEKLEQTEGKLISEED
LIEHHHHHH

FIG. 7

atggcgtgcccagccaaattcgctcgcaagaagaagaaggagaaggggagaacatccagggtgggtgaga
tgcagaccatttaatttggcagagcgaaagctagcgccattcaatagtagaatgtgatcctgtacgaaaa
gaagtttagtgctaactggaggattggctgacaagagactcaaggaaaacatacactttgatatgggttt
ggagcatctactaaacagattgatgttaccgagggtttgtccaaattctggatgaagttattatggc
tataattgcactatcttgcgtatggccaaactggactggaaaaactttacaatggaaagggtgaaagggtca
ccttaatgaagagtataccttggaaagaggatccctggctgtataattccacgtacccttcatcaaatttt
gagaaaacttactgataatggactgtaaacttcaagggtctgttggagatctataatgaagagctt
tttgatttcttaatcccatcatctgatgttctgagagactacagatgttgatatccccgtaacaagaga
ggagtgataattaaaggttagaagaaattacagtacacacaaggatgaagtgtatcaatttttagaaaag
ggggcagcaaaaaggacaactgcagctactctgatgaatgcatactctagtcgtttccactcagtttct
gttacaatacaatatgaaagaaactacgattgatgggaggctttaaatcggaaagttgacttgtt
gattttcgaggaagtgaaaacattggccgtttctggagctgtttgataagagagctcgggaagcttgggaaat
aaatcaatccctgtttgactttggaaagggctttactgccttgtgaaagaaacacctcatggtttccttatcgg
gaaatctaaactaaactgaaatccttccaggatttctttggaggggctgacaagaaacattattgcaacaaatt
tctcttcgcatctctcaattttgaggaaactctgagtacattggaaatatgctcataggcaaaagaaacatatttg
aaataaagcctggaaagtgaaacatcgaaacttcctttattaagggttatacgggagggatagacgt
ttaaacgagatttgctgagccctggaaatgggatgtatttctgaagaaaattttagaggtcatg
agtggaaattaactttcaagaaaggagcatttgtagaattgattgattgaaaatttggtgctgtttgagggggag
ctgaaatagggtttacagggttttatggataataaaatgaaactttgaccatgtgtaatctgacctgcaaaat
aaacacaagaaacttgaaacactcaaaaacattgcaagaaacttcaactttttaaagaaagaaatat
atcacatcagctttggaaagtactgagggagaaacttcatgatgtgccagcagctgcttaacacagttgaa
gaaactacaaagatgtatctggctccattccaaacttgggatcgtaagggacttgacccaaaccaatgca
gaagctgagggatttttggcaaaacttgaaatgtgttaaatatgggaaattaaggatgggc
agccctcgagggtttaccgcagagctgatcgcgagggacttgatcggacccacccacccacccactgu

FIG. 8

MACQPNSSAKKKEEKGKNIQVVVRCPFNLAERKASAHSIVECDPVRKEVSVRTGGGLADKSSRKTYTFDMVF
GASTKQIDVYRSVVCPIDEVIMGYNCTIFAYGQTGTGKTFTMEGERSPNEEYTWEEDPLAGIIIPRTLHQIF
EKLTDNGTEFSVKVSLLIEIYNEELFDLLNPSSDUSERLQMFDDPRNKRGVIIKGLEEITVHNKDEVYGILEK
GAAKRTTAATLMNAYSSRSHSVFSVTIHMKETTIDGEELVKIGKLNVLVLAGSENIGRSGAVDKRAREAGNI
NQSLLTLGRVITALVERTPHVPYRESKLTRILQDSLGGRTRTSIIATISPASLNLEETLSTLEYAHRAKNIL
NKPVNQKLTКАЛИKEYTEEIERLKRDЛAAAREKNGVYISEENFRVMSGKLTВQEEQIVELIEKIGAVEEE
LNRVTELFMDNKNELDQCKSDLQNKTQELETTQKHLGETKLGLVKEEYITSALESTEKLHDAASKLLNTVE
ETTKDVSGLHSKLDRKKAVDQHNAEAQDIFGKNLNSLFNNMEELIKDGSLEQTEGKLISEEDLIEHHHHHH

FIG. 9

atggcgtccagccaaattcgctcgagaagaagaaaagaggagaaggggagaacatccaggtgggtggaga
tgcagaccatttaatttggcagagcggaaagctagcgcattcaatagtagaatgtgatcctgtacgaaaa
gaagtttagtgtacgaaactggaggattggctgacaagagctcaaggaaaacatactttgatatgggttt
ggagcatctactaaacagattgtatgttaccggagggtgttgcattctggatgaaagtattatgggc
tataattgcactatcttgcgtatggccaaactggcaactggaaaaactttacaatggaaagggtgaaagggtca
cctaattgaaagagtatacctgggaagaggatcccttggtataattccacgtacccttcatcaaaatttt
gagaaacttactgataatggtaactgaaatttcagtcaaagtgtctctgtggagatctataatgaagagctt
tttgcatttcaatccatcatctgtatgttctgagagactacagatgttgcattcccgtaacaagaga
ggagtgataattaaagggtttagaagaaaattacagtacacaacaaggatgaagtgtatcaaatttagaaaag
ggggcagcaaaaaggacaactgcagctactctgtatgaaatgcataactctagtcgttccactcagtttctct
gttacaatacatatgaaagaaaactacgattgtatggagaagagctgttaaaatcgaaaagttgaacttgggt
gtatctgcaggaaagtgaaaacattggccgttctggagctgttgcataagagagactcggaaagctggaaatata
aatcaatccctgttgactttggaaagggtcattactgcctttagaaaagaacacacccatgttccattatcg
aatctaaactaactagaatctccaggattcttggagggcgtacaagaacatctataattgcacaaatt
tctcctgcattctcaatcttggagaaactctgagttgcattggaaatatgcattagagcaaaacatattg
aataaggctgaagtgaatcagaatag

FIG. 10

MACQPNSSAKKKEEKGNIQVVVRCPFNLAERKASAHSIVECDPVRKEVSVRTGGLADKSSRKTYTFDMVF
GASTKQIDVYRSVVCPILDEVIMGYNCTIFAYGQTGTGKTFMEGERSPNEEYTWEEDPLAGIIPRTLHQIF
EKLTDNGTEFSVKVSLLEIYNEELFDLLNPSSDVSERLQMFDDPRNKRGVIIKGLEEITVHNKDEVYGILEK
GAAKRTTAATLMNAYSSRSHSVFSTIHMKETTIDGEELVKIGKLNLVLAGSENIGRSGAVDKRAREAGNI
NQSLTLGRVITALVERTPHVPYRESKLTRILQDSLGGRTTSIIATISPASLNLEETLSTLEYAHRAKNIL
NKPEVNQK

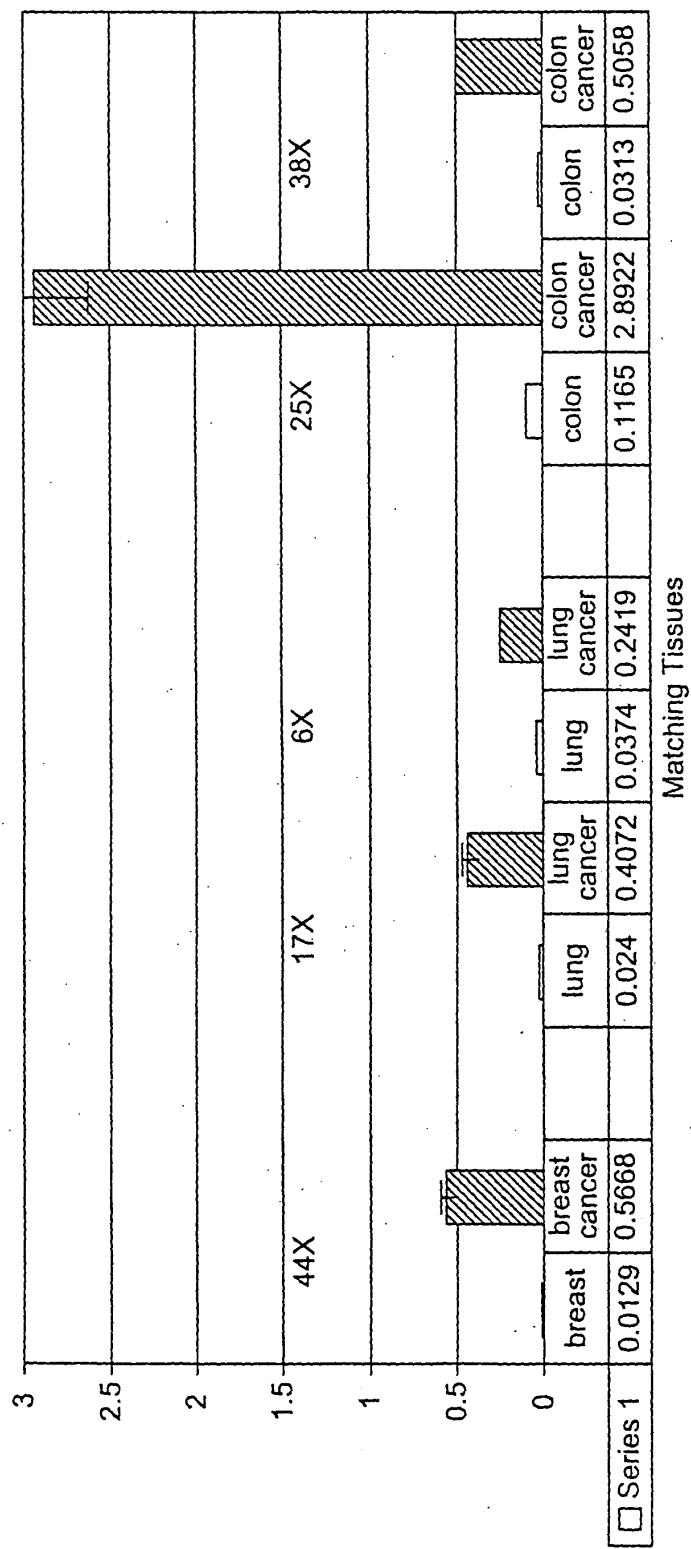


FIG. 11